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THE ATHENIAN CALENDAR

By W. S. FERGUSON

1 337/6*† July 16	Phrynichos, O ¹	318/7† June 16	Archippos, I	299/8 July 16	Euktemon, O
2 336/5 " 5	Pythodelos, I	317/6* July 5	Demogenes, i	298/7 " 5	Mnesidemus, i
3 335/4 " 24	Euainetos, O	316/5 " 23	Demokleides, o	297/6* " 23	Antiphatas, o
4 334/3 " 13	Ktesikles, O	315/4 " 12	Praxibulos, o	296/5† " 12	Nikias, o
5 333/2* " 1	Nikokrates, I	314/3 " 1	Nikodoros, I	295/4 " 2	Nikostratos, I
6 332/1 " 20	Niketes, O	313/2* " 19	Theophrastos, I	294/3 " 21	Olympiodoros, O
7 331/0† " 9	Aristophanes, O	312/1 Aug. 7	Polemon, o	293/2*† " 9	Charinos? o
8 330/9 June 29	Aristophon, I	311/0† July 27	Simonides, o	292/1 June 29	Philippos? i
9 329/8* July 17	Kephisophon, O	310/9 " 17	Hieromnemon, O	291/0 July 18	Kimion, i
10 328/7 " 6	Euthykritos, O	309/8*† " 5	Demetrios, o	290/9 Aug. 6	Diokles, O
11 327/6† June 25	Hegemon, i	308/7 June 25	Kairimos, i	289/8* July 25	Diotimos, O
12 326/5 July 15	Chremes, O	307/6† July 14	Anaxikrates, O	288/7 " 14	Isaios, i
13 325/4* " 3	Antikles, O	306/5 " 4	Koroibos, O	287/6† Aug. 3	Euthios, O
14 324/3 June 22	Hegesias, O	305/4*† June 22	Euxenippos, I	286/5 July 23	Xenophon, i
15 323/2 " 11	Kephisodoros, O	304/3 July 11	Pherekles, O	285/4* Aug. 10	Urios, O
16 322/1 May 31	Philokles, I	303/2 " 1	Leostratos, I	284/3 July 30	Telokles? i
17 321/0* June 18	Archippos, o	302/1 " 20	Nikokles, O	283/2† Aug. 18	Menekles, O
18 320/9 " 8	Neaichmos, I	301/0* " 8	Klearchos, I	282/1 " 8	Nikias Otr., O
19 319/8 " 27	Apollodoros, o	300/9 " 27	Hegemachos, o	281/0* July 27	Aristonymos, O

¹O=demonstrated; o=hypothetical, ordinary year. I=demonstrated; i=hypothetical, intercalary year.

The first part of this table is compiled, with modifications, from that given by Unger in Mueller *Handbuch* I², p. 755. Seeing that 331/0 did actually begin on July 9 (*ibid.*, p. 754) the dates of the months for the first cycle or two are approximately correct—if the intercalations were made as set forth in the table. For the calendar character of 326/5 B. C. see below, p. 388, n. 1; for that of 305/4 see *IG. II*, 238, which Sundwall (*Acta societatis scientiarum fennicae*, 1907) has correctly put in this year. The archons after 294/3 B. C. are dated as in the *Priests of Asklepios*, p. 132. For the calendar quality of the archon years see Beloch *Klio* I, pp. 412 ff., and *Griech. Gesch.* III 2, pp. 52 ff. where the year of Nikias Otr., which is an ordinary year, is wrongly treated as undetermined; also Sundwall, *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar* XLIX, 1906-7, No. 9, pp. 75 ff., cited below as *Untersuch.* from the title of the monograph, which is *Untersuchungen über die attische Münzen neueren Stils*.

1 280/9 Gorgias	261/0 O Arrheneides	242/1	223/2 Kalli-
2 279/8 Anaxikrates	260/9	241/0	Menekrates
3 278/7 O Demokles	259/8	240/9	221/0 O Thrasyphron
4 277/6 — laios?	258/7	239/8 I Charikles	220/9
5 276/5 Eubulos	257/6	238/7 Lysias	219/8
6 275/4 Polyeuktos	256/5 O Kleomachos	237/6 Kimon	218/7 O?
7 274/3 I Hieron	255/4	236/5 I Ekphantos	217/6 Chairephon
8 273/2	254/3	235/4 O Lysanias	216/5 Pantiades?
9 272/1	253/2	234/3	215/4 I Diokles
10 271/0 I Pytharatos	252/1 Diogeiton	233/2	214/3 Euphiletos
11 270/9 O <i>IG. II</i> 5 252c.	251/0 Olbios	232/1 O? Diomedon	213/2 Herakleitos
12 269/8	250/9	231/0 Jason	212/1 OI Archelaos
13 268/7 O Philokrates	249/8	230/9	211/0 Aischron
14 267/6	248/7	229/8 O Heliodoros	210/9
15 266/5 O Peithidemos	247/6 O? Lysiades	228/7 Leochares	209/8 Philostratos
16 265/4	246/5 I Kallimedes	227/6 O Theophilos	208/7 I Antimachos
17 264/3 Diognetos	245/4 O? Glaukippos	226/5 O Ergochares	207/6 Phanostatos
18 263/2	244/3 O Thersilochos	225/4 Niketes	206/5 Kallistratos?
19 262/1 Antipatros	243/2	224/3 Antiphilos	205/4

1 204/3		185/4 O Eupolemos	166/5 O? Achaïos
2 203/2		184/3	165/4 O Pelops
3 202/1	Phanarchides?	183/2 Hermogenes	164/3 Euerg —!
4 201/0		182/1 Timesianax	163/2 Erastos
5 200/9		181/0	162/1 Poseidonios
6 199/8		180/9	161/0 Aristolas
7 198/7		179/8	160/9 Epainetos?
8 197/6		178/7 Philon	159/8 Aristaichmos
9 196/5		177/6	158/7 Anthesterios
10 195/4		176/5 Hippakos	157/6 Kallistratos
11 194/3		175/4 O? Sonikos	156/5 Mnesitheos
12 193/2		174/3	155/4
13 192/1		173/2	154/3 Zaleukos?
14 191/0		172/1 I Tychandros	153/2 Phaidrias
15 190/9		171/0 De —	152/1 Lysiades
16 189/8		170/9 Alexandros?	151/0 I? Archon
17 188/7 I? Symmachos		169/8 O Eunikos	150/9 I Epikrates
18 187/6 Theoxenos		168/7 I Xenokles	149/8 Theaitetos
19 186/5 I Zopyros		167/6 Nikosthenes?	148/7 Aristophon

1 147/6		128/7 Dionysios	109/8 O Jason July 14
2 146/5		127/6 Theodorides	108/7 Herakleides
3 145/4		126/5 Diotimos	107/6 O Aristarchos
4 144/3	Meton?	125/4 Jason	106/5 O Agathokles
5 143/2		124/3 Nikias & Isigenes	105/4
6 142/1		123/2 Demetrios	104/3
7 141/0	Dionysios?	122/1 O Nikodemos	103/2
8 140/9	Hagnotheos	121/0 Xenon?	102/1 Theokles
9 139/8	Apollodoros	120/9 Eumachos	101/0 Echekrates
10 138/7	Timarchos	119/8 Hipparchos	100/9 O Medeios
11 137/6 O Herakleitos		118/7 O Lenaïos	99/8 Theodosios
12 136/5		117/6 Menoites	98/7 O Prokles
13 135/4	Nikomachos	116/5 O Sarapion	97/6 Argeios
14 134/3		115/4 Nausias	96/5 Argeios
15 133/2 O? Metrophanes		114/3	95/4 Herakleitos
16 132/1 O? Ergokles		113/2 Paramonos	94/3 O Demochares
17 131/0 O Epikles		112/1 O Dionysios July 18	93/2
18 130/9	Demostratos	111/0 i Sosikrates July 7	92/1 Diokles?
19 129/8	Lykiskos	110/9 O Polykleitos July 26	91/0 Medeios

A glance at this table shows that an effort, but not a very serious one, was made to avoid the succession of three ordinary and two intercalary years. Thus the elements which normally recur in each cycle are OI, OOI, and it may be that theoretically they were arranged in the following series: OI, OOI, OOI, OOI, OOI, OI, OIO. But it is possible to obtain seven intercalary years in the first cycle (sixth from the promulgation by Meton in 433/2 B. C.) only by admitting three successive intercalary years between 322/1 and 318/7 B. C., as well as the four successive

ordinary years which are attested in 326/5,¹ 325/4, 324/3, and 323/2. This no one will do except under compulsion; hence we have preferred² to make this cycle fall a month short of its due, for which there is the additional argument that the second (or seventh) cycle began with an intercalary year. Accordingly, we have regarded the extra month of 318/7 B. C. as wiping out the defect of the preceding cycle. So far so good. But in 314/3 and 313/2 B. C. we find two successive intercalary years,³ to even up which we are obliged to enter either two groups of three successive ordinary years, or one group of four ordinary years in the period between 312/1 and 306/5 B. C. In the third (or eighth) cycle, also, three ordinary years follow one another at the end (283/2–281/0 B. C.), which argues for the existence of two successive intercalary years somewhere earlier in the period (e. g., 292/1, 291/0 B. C.). We are consequently bound to deny the maintenance of any invariable sequence of ordinary and intercalary years within the cycle. We need to recognize only an additional effort on the part of the Athenians to bring the lunar and the solar periods into the same relation to one another at the

¹I have restored as follows the inscription of this year, which is published in 'Eφ. Ἀρχ., 1898, p. 7, No. 2; cf. Plate I:

[Ἄ]στν - -
 20 Ἐπὶ Χρέμης[ος ἀρχοντος : ἐ] -
 21 πὶ τῆς Ἐρεχθ[ίδος τετάρτ] -
 21 ης πρυτανείας [Μαιμακτῆρ] -
 21 [ι]ῶνος ὀγδόῃ κ[αὶ δεκάτῃ] -
 21 [τ]ριακοστῇ τῇ[ς πρυτανεί] -
 20 [ας] ἐκκλησία κυ[ρία : τῶν πρ] -
 [οεδρω]ν ἐπεψή[φισε - -

30 + 29 + 30 + 29 + 18 = 136.

35 + 36 + 35 + 30 = 136.

No other restoration is possible whether the second line had twenty or twenty-one letters.

²With Beloch *Griech. Gesch.* III 2, p. 53, who, however, ends each cycle in his table one year earlier than I do. This results from including 338/7 B. C., which, as belonging to the preceding nineteen-year period, I have excluded.

³There is another possibility here, viz., that the prytanies were of unequal lengths (Unger *Philologos* XXXIV, pp. 503 ff.), as they seem, in fact, to have been in 186/5 (*IG.* II 420) and 172/1 B. C. (*BCH.* XXIX, p. 169). But these were intercalary years at the time of the twelve tribes, and until marked differences of length are observed in the prytanies of an ordinary year and of an earlier time we have preferred to leave this additional element of uncertainty out of account.

end of every nineteen years. That they tried to limit the freedom of the government even to this extent is probable despite the failure in 337/6–319/8 B. C., both because of the insertion of an extra month in 318/7 B. C. at the opening of a cycle and because of the succession of three ordinary years in 283/2–281/0 B. C. at the end of a cycle; but it is demonstrable in one sole instance, viz., at the end of the twelfth (or nineteenth) cycle. This is, however, a clear case. It consists of the following fragment of a Milesian *paraepagma*: [θ]ερυνῆς τρο[π]ῆς [γε]νομένης ἐπὶ Ἀψεύδους Σκιροφοριῶνος ἸΓ, ἥτις ἦν κατὰ τοὺς Αἰγυπτίους μία καὶ Κ τοῦ Φαμενώθ, ἕως [τῆ]ς γενομένης ἐπὶ Πολυκλείτου Σκι[ροφορι]ῶνος ΙΔ, κα[τὰ δὲ τοῦ]ς Αἰγυπτί[ους τοῦ Παν]υλ τῆς ΙΔ, [κατὰ δὲ τὸ Μιλ]ήσιον - - - . From this document, as Rehm and Diels¹ have pointed out, it is clear that the 27th of June corresponded with the 21st of Phamenoth, or the 201st day of the Egyptian year, on the 13th of Skirophorion in 433/2 B. C., and that it corresponded with the 14th of Payni, or the 281st day of the Egyptian year, on the 14th of Skirophorion in the archonship of Polykleitos. That is to say, the solstice fell 80 days later in the year because of the interval, and since it fell back one day in every four years through the well-known failure of the Egyptians to intercalate a 366th day in leap years, the interval must have been from 320 to 324 years; in other words, Polykleitos must have been archon in 113/2, 112/1, 111/0, or 110/9 B. C. Now in his archonship the 27th of June coincided with the 14th of Skirophorion; hence the 30th of Skirophorion coincided with the 13th of July and the new moon was visible on the 14th of July. But in 112 the new moon was visible on the 29th of June or the 28th of July,² in 111 on the 18th of July, in 110 on the 7th of July, but in 109 on the 14th of July precisely. Hence Polykleitos was archon in 110/9 B. C. on astronomical grounds as well as because of the secretary canon; hence, moreover, the Athenian calendar was flawless in this year, i. e., at the end of the 12th (or nineteenth) Metonic cycle. There is thus a certain warrant for believing that the effort was made generally to assign seven inter-

¹ *Sitzungsb. d. berl. Akad.*, 1904, pp. 92 ff.

² Unger *Müller's Handbuch* I², p. 764; Sundwall *Untersuch.*, p. 82.

calary and twelve ordinary years to every cycle, but none whatever that this was done with such regularity in the disposition of these two elements as to enable us to predict the calendar quality of any given year. In other words, the attempt of Beloch¹ and others to date third century B. C. archons by means of the calendar had from the start no chance of success; and, furthermore, the evidence which has been advanced to prove that the Metonic cycle was not introduced in the year of its discovery (433/2 B.C.) proves nothing of the kind, seeing that this cycle gave such a large measure of internal freedom. The empirical data won from the inscriptions contains nothing contradictory with the statement of Diodoros² made in his record for Apseudes' archonship (433/2 B.C.): ἐν δὲ ταῖς Ἀθήναις Μέτων ὁ Πανσανίου μὲν υἱὸς, δεδοξασμένος δὲ ἐν ἀστρολογίᾳ, ἐξέθηκε τὴν ὀνομαζομένην ἐννεακαιδεκαετηρίδα, τὴν ἀρχὴν ποιησάμενος ἀπὸ μηνὸς ἐν Ἀθήναις Σκιροφοριῶνος τρισκαιδεκάτης. Ἐν δὲ τοῖς εἰρημένοις ἔτεσι τὰ ἄστρα τὴν ἀποκατάστασιν ποιεῖται καὶ καθάπερ ἐνιαυτοῦ τινος μεγάλου τὸν ἀνακλισμὸν λαμβάνει· διὸ καὶ τινες αὐτὸν Μέτωνος ἐνιαυτὸν ὀνομάζουσι. Δοκεῖ δὲ ὁ ἀνὴρ οὗτος ἐν τῇ προρρήσει καὶ προγραφῇ ταύτῃ θαυμαστῶς ἐπιτετευχέναι· τὰ γὰρ ἄστρα τὴν τε κίνησιν καὶ τὰς ἐπισημασίας ποιεῖται συμφώνως τῇ γραφῇ· διὸ μέχρι τῶν καθ' ἡμᾶς χρόνων οἱ πλείστοι τῶν Ἑλλήνων χρώμενοι τῇ ἐννεακαιδεκαετηρίδι οὐ διαψεύδονται τῆς ἀληθείας. That is to say, Meton's nineteen-year cycle started at the summer solstice—13th of Skirophorion 432/2 B.C.—a fact amply corroborated by the Milesian *paraepagma* quoted above. The current doctrine is that this date was merely the point of departure for Meton's calendar calculations, and that his era was not actually employed in Athens till about 100 years later; that what was set forth in 432 B.C. was the table of computations alone. It cannot be denied that the passage of Diodoros will admit of this interpretation, but it does not prescribe it, and despite the great names which have given to it its present prestige, it has never quite ousted the common-sense interpretation of the passage in question and of the other evidence. For in the first place it is abundantly proven by the part played by Meton in

¹ *Griech. Gesch.* III 2, pp. 50 ff. (*Klio* I, pp. 411 ff.)

² XII 36.

the comedies of Aristophanes¹ and Phrynichos² that he was a man with a popular reputation such as does not fall ordinarily to the lot of a scholar who has made a contribution to astronomical science. Meton must have succeeded in getting his scheme discussed by the people of Athens. It guaranteed, what the *octaeteris* had failed to secure, astronomic correctness at the end of each cycle, and it set forth what was ideally the best grouping of the lunar months in the several years; but, as we have seen, it gave the *δῆμος* considerable freedom of intercalation within the limits of the larger period—a freedom which it did not wait till 326/5 B. C. to use for the first time, as is clear both from the passage of *IG.* II 4, p. 59, quoted below,³ and from the complaints of Aristophanes in the *Clouds*⁴ (414 B. C.) that the gods were not getting their sacrifices at the right times. The notoriety of Meton is thus the first argument that he published his adjustable almanac (*parapegma*), not on the basis of a theoretical nineteen-year cycle—which would have had little practical value if the days, months, and years of Athens depended upon a different scheme—but on the basis of a nineteen-year cycle which he had succeeded in having made the official calendar of the state. The second argument is of a negative character. It is difficult to understand how the date, 13th of Skirophorion in the archonship of Apseudes, came to be preserved if the new calendar did not go into operation at that time, since, if Meton's calendar had been first introduced 100 years after his *akme*, however much indebtedness to him might then be acknowledged, the innovation would be accredited popularly to the nameless man of affairs who effected the reform, not to the ancient computer of the system. And if Meton's almanac and calendar had been published only privately in 433/2 B. C., but used popularly in subsequent times, there was no reason for the state which first introduced it officially in 338/7 B. C. to regard further the five cycles which had already elapsed: it would then have sufficed to establish, let us say, the 13th of Skirophorion or thereabouts 337 B. C. as the starting-point of the Metonic era. This would

¹ *Birds*, ll. 992ff.

² *Monotropos* quoted by Van Leeuwen on Aristophanes' *Birds*, *loc. cit.*

³ P. 42.

⁴ Ll. 615 ff.

have been the historically important date—the one which should have impressed itself upon our tradition; as, of course, it has not done, for the obvious reason that it never existed.¹

The determination of the calendar character of the years in the second century B. C. is made difficult through the existence during a period—of which the limits thus far determinable on epigraphical evidence are 166/5 and 122/1 B. C.—of two distinct years at the same time, each with its distinct set of months, one, however, designated *κατ' ἀρχοντα*, and the other *κατὰ θεόν*. Whenever a document is dated in the two systems the prytanies coincide with the months *κατὰ θεόν*, and the months *κατ' ἀρχοντα* lag from a full month to one day only behind the months *κατὰ θεόν*; but documents, both in the years with two sets of months, and in years in between these, are also dated simply in terms of one year, which is, moreover, so far as can be judged,² the old lunar year. This fact tends to corroborate the view of Adolf Schmidt that the year *κατὰ θεόν*, with which the prytanies are in relation when the two systems exist side by side, is also the old lunar year—the year which entered into the Metonic cycle; and it is on this hypothesis that the table given above has been constructed. If this is true, what is the year *κατ' ἀρχοντα*? The solar year, according to Adolf Schmidt.³ This, however, is impossible, for in the year 122/1 B. C., in which the archon Nikodemos is located on too many evidences to be moved on any account, the 8th *embolimos* of Boedromion *κατ' ἀρχοντα* coincided with the 9th of Boedromion *κατὰ θεόν*. This, however, proves, as J. Sundwall

¹The practice, begun in 338/7 B. C., of dating documents by giving not only the day of the prytany, but also the day of the month on which they were passed, simply reflects a change in the management of the public archives, which, as usual, accompanied an epoch year. There exists, therefore, no more reason for making 338/7 B. C. the first of a Metonic cycle than for inferring a calendar change thirty years earlier (*IG*, II 52) when the day of the prytany was first put upon the public decrees. Moreover, a dating by month and prytany from as early as 346/5 B. C. is found in the Samian cleruch document published by C. Curtius *Inscriptionen und Stud. zur Gesch. v. Samos. Progr.*, Lübeck, 1877.

²Sundwall *Untersuch.*, p. 89, who, however, errs in assuming that it is a solar year where we have no means of judging. It is unthinkable that the Athenians changed from a lunar to a solar year and vice versa four or five times in the last two-thirds of this century.

³*Jahrb. f. Phil.* 1884, pp. 651 f.

has clearly pointed out,¹ that, if either of these was a solar year, the summer solstice and the new lunar month must have practically coincided in June 27th, 122 B. C. But new moons were visible in 122 B. C. on June 10th and July 9th. Consequently, *κατ' ἄρχοντα* does not mean solar year any more than *κατὰ θεόν* does.² What then does it mean? We have as yet insufficient data to answer this question positively, but the conjecture is permissible that it was a year of which the limits were determined by the archon, i. e., by his period of service. We might then think that the term failed to jibe with the other or senatorial year through a difference of decision as to the intercalation of a month or a day, but this explanation fails to satisfy one case of double dating by months, viz., *IG. II 408*, which is a decree passed in the archonship of Metrophanes (133/2 B. C.) on the 29th of Elaphebolion *κατ' ἄρχοντα* and the 12th of Munychion *κατὰ θεόν*. Here the difference is 12 or 13 days. How did it come that the archon year began 12 days later than the senatorial year, this is the question, since it is inconceivable that 12 days were intercalated in the archon year after it had once begun.

There was nothing new in the existence of a separate archon year. In fact it had existed throughout the greater part of the fifth century B. C., as Bruno Keil³ demonstrated some years ago. He claimed further that in that century the archon year had its series of lunar months, while the senatorial year had apparently only its series of prytanies, but A. Mommsen⁴ has since shown that the archon and the senatorial year probably belong together. According to Keil's view, to which Mommsen assents in this particular, the separate senatorial year was abandoned in 410 B. C.

¹ *Untersuchungen*, pp. 82 f.

² This, in my judgment the only methodical conclusion, Sundwall fails to draw. Instead of doing so, he tries to change the date of Nikodemos; and, in fact, there was a coincidence of solstice and new moon in the year 121 B. C. Hence he puts Nikodemos in 121/0 B. C. — with the disastrous results noted below. Sundwall encounters a similar difficulty in the cases of Metrophanes and Achaïos; the first must be shifted from 133/2 B. C. to 144/3 B. C., the latter from 166/5 B. C. to 165/4 B. C. This is, however, admissible only when Nikodemos is put in 121/0 B. C.; and not even then, since the successor of Metrophanes, Erg. (who is, doubtless, Ergokles of 132/1 B. C. *pace* Sundwall), and Meton (*Klio* VII, p. 222) would collide in 143/2 B. C.

³ *Hermes* XXIX, pp. 32 ff.

⁴ *Philologos* 1903, pp. 348 ff. Of., however, *ibid.* 1902, pp. 214 ff.

As we have seen, the divergence appears again in the second century B. C. This time the archon year has its own series of months, and it has different limits from the lunar-calendar year, which, however, has now a fixed relation with the senatorial year, as during the two centuries which had intervened. Of course, the archon year had coincided with the calendar year for the same two centuries, and, since there was still a rough coincidence between the two years, the name of the archon was still employed to designate both. The Athena-year began 28 days after the calendar year, and the ephebe year two months later; so that there was no reason why the archon should not have his separate year also. But it is curious that it should have a different set of months, i. e., should stand in no fixed relation to the calendar year. This shows that it had its own cycle and its own reason for its beginning and ending, just as the archon-senatorial year had in the fifth century. In the earlier period, according to Bruno Keil's reckoning,¹ it had an ordinary length of 360 days and an intercalary length of 390 days. There were seven intercalary years in every forty. This may or may not be correct; at any rate the archon-senatorial year did not fit in between the solstices, as is clear from the fact that in 411 B. C. it began on the 14th of Skirophorion,² whereas in this year the solstice occurred, not 15 or 16 days before the new moon which was visible at the first of Hekatombaion, but 27 days before that event.³ Hence we need not be surprised that the archon-year in the 2d century B. C. disregarded the solstices also. We have no means of establishing the cycle which was followed in this epoch; for nothing of any value can be obtained from the double datings in 133/2 B. C. and 122/1 B. C. so long as the beginning point of neither set of months is determinable. The upper epigraphical limit of the divergence between the archon and the calendar or senatorial year has been set at 166/5 B. C. in the conviction that Sundwall⁴ is right in placing *IG. II 451b ii*, and *II 433* in the same year; in which case both, and with them the archon Achaïos and the secretary Ἡρακλέων Ναυ[υ]άκου Εὐπυρίδης, belong to 166/5 B. C. If this were approximately the real

¹ *Hermes loc. cit.*, pp. 321 ff.

² Aristotle *Const. of Athens* 32.

³ Unger *Müllers Handbuch* I², p. 752.

⁴ *Op. cit.*, pp. 86 ff.

upper limit we might think that the acquisition of Delos in the winter of 167/6 B. C. and the steps taken thereafter to shift the beginning of the Delian year round from Gamelion to Hekatombaion had something to do with the establishment of a separate series of archon years. But our knowledge of this effort depends as yet upon Homolle's interpretation¹ of certain unpublished Delian documents, so that we are not at present in a position to discuss its details. Moreover, Sundwall has discovered that there existed from *ca.* 180 B. C. forward a different year from the calendar year, which, moreover, possessed a distinct set of months or subdivisions, and was used to define the terms of office of the so-called third mint magistrates. This was, doubtless, the archon year, both because we know of no other it can have been, and because Sundwall has made it very probable² that the third mint magistrates were Areopagites; i. e., ex-archons, to whom the use of the archon year would, accordingly, be most natural. The data collected by Sundwall from the coins shows that the archon year began almost, if not altogether, as frequently after the senatorial calendar year as before it (10 to 12)³—a relation which is explicable on the hypothesis that either of them is the solar year only by assuming that the Metonic or Kallippic cycle was regularly violated during this century; since in it the lunar year began prior to the solar year only twice in every nineteen years. In the four cases⁴ known to us from the inscriptions the archon year began after the senatorial or calendar year. We have, accordingly, to maintain, on any interpretation, that the relation thus suggested is accidental, since the coins show one year to have begun before the other only slightly more frequently than after it. From one of the inscriptional cases already referred to we learn that the archon year began more than a month later than the calendar year;⁵ that is to say, precisely as in the year to which the monetary series Herakleides-Eukles belonged.⁶ Is it thinkable

¹ *BCH.* V 25; XXVII 63, n. 1.

² *Op. cit.*, pp. 10, 69 f.

³ *Ibid.*, pp. 93 ff.

⁴ Five if *IG.* II 5 451b ii and II 433 do not belong to the same year.

⁵ Unless there was the intercalation of a month in the archon year and none in the calendar year, which is, of course, possible; cf. Sundwall *op. cit.*, p. 86.

⁶ Sundwall *op. cit.*, p. 98.

that when the lunar year was bound to end more than a month before the solstice, if the effort were being made at the time to keep the two together, an extra month was not intercalated? Sundwall affirms its necessity in the one case, but practically denies it in the other.¹ At any rate, such an interval is absolutely without precedent, since in the two cycles which we can approximately reconstruct the lunar year began nine times more than a month after the solstices, but never more than a month before it; for to bring this about under normal circumstances a succession of five ordinary years would be required. The facts are thus just what might have been expected. Official influence moved entirely in the direction of prolonging not shortening a year unduly. It was often possible for the δῆμος to decree, as it did to our knowledge in ca. 418 B. C.:² μένα δὲ ἐμβάλλειν Ἑκατονβαῖδνα τὸν νέον ἄρχοντα. On this occasion the object was to postpone the time for delivering the ἀπαρχαί to the goddesses at Eleusis³—so simple a matter was it for the Athenians to intercalate a month irregularly, or even an irregular month. On the other hand, failure to intercalate a month when it was due or overdue meant to shorten the year of the senate and magistrates to which these would naturally raise strenuous objections.

There are thus, we contend, serious objections to the view maintained by Sundwall with equal audacity and keenness in a work otherwise rich in important results that the year κατὰ θεόν is the solar year—objections altogether aside from the insurmountable chronological difficulties with which it is involved. For its acceptance requires us to transfer Nikodemos to 121/0 and Metrophanes to 144/3 B. C. But as Sundwall himself puts it: *Dies wird aber die weittragende Folge mit sich bringen dass die ganze Schrieberfolge, auf der die Archonten-Datierung von Ferguson und Kirchner beruht (vgl. P. A. II 642 f.) für das 2 Jahrh. um ein Jahr verschoben wird.* In other words, Xenokles, whose coincidence with the battle of Pydna (168 B. C.) is indisputable,⁴ must be transferred from 168/7 to 167/6 B. C.; Hagno-

¹ Cf. *op. cit.*, pp. 86 and 98.

² *IG. II 4*, p. 59, No. 276 = Ditt. *Syll.*² 20, l. 53.

³ Keil, *Hermes* XXIX, p. 347, n. 1; Ditt. *ad loc. cit.*

⁴ Jacoby *Apollodors Chronik*, p. 349; cf. *The Athenian Archons*, p. 61.

theos, whose coincidence with Ol. 160, 1 (140/39 B. C.) is demonstrated by the following words of Pausanias:¹ ὁ δὲ πόλεμος ἔσχεν οὗτος τέλος Ἀγνοθέου (with Wilamowitz's² certain correction of the MSS. Ἀντιθέου) μὲν Ἀθήνησιν ἄρχοντας, Ὀλυμπιάδι δὲ ἐξηκοστῇ πρὸς ταῖς ἑκατὸν, ἣν ἐνίκα Διόδωρος Σικυώνιος is transferred to 139/8 B. C.; Jason and Dionysios μετὰ Παράμονον who are fixed in 125/4 and 112/1 by their coincidence with the Roman consuls for these years have to be transferred to 124/3 and 111/0 B. C.—a difficulty which cannot be eluded by the aid of the fact that the Attic year coincided in part with the Roman years 125 and 124 B. C. in the one case and the Roman years 112 and 111 B. C. in the other case, thus leaving, it would seem, two alternatives; for the Roman consuls are uniformly equated with the Olympiads and Attic years which began with the July after they assumed office, and that this was done officially in Athens is proved by the case of Argeios whose location in 97/6 B. C. is attested by his coincidence with the Roman consuls who took office on January 1, 97 B. C. These difficulties seem to me altogether inevitable, and they are reinforced by another equally so in that Polykleitos, as shown above, can on no account be transferred from 110/9 to 109/8 B. C. Moreover, just as Demochares (94/3 B. C. = Ol. 171, 3) and Theokles (102/1 B. C. = Ol. 169, 3) are defined in the third year of an Olympiad by the presentation during their terms of office of *peploi* to Athena, so *IG.* II 421, which the secretary from the deme Butadai dates in 141/0 B. C. = Ol. 158, 4, is fixed in the year after the third of an Olympiad by the reference in l. 48³ to the presentation of a *peplos* by Miltiades of Marathon whose services as *agonothetes* of the Panathenaia were the immediate occasion of this decree. Sundwall, however, must date it in 140/39 B. C. which is hardly possible.

Nor are the corroborations adduced by Sundwall⁴ for the shifting of the whole block of archons worth serious consideration. There was no reason why a decision, reached after the Pythais in 106/5 B. C., to send such delegations in the future δι' ἐννεετηρίδος should compel the first under the new régime to follow the last

¹ VII. 16. 10.

² *Sitzungsb. d. berl. Akad.* 1904, p. 474.

³ *IG.* II 5, 421.

⁴ *Op. cit.*, p. 83.

under the old by precisely eight years, especially since a dislocation of the Athenian and Delphian *enneeteris* would be occasioned thereby.¹ Hence there is no need to bring Agathokles (106/5 B. C.) within eight years of Argeios (97/6 B. C.). Nor does it commend Sundwall's transposition that by shifting the entire block forward a year the official order of the secretaries' tribes is maintained in 100/99 B. C., but abandoned in the course or end of the year next following; for though there is no longer any reason for defining the oligarchic revolution which took place at this period in 103/2 B. C. precisely, there is still conclusive evidence that it occurred prior to 101/0² B. C., if not prior to 102/1 B. C., as is probable; so that, granting the abrogation of the official order in this general period because of the oligarchic movement, we should expect it to have ceased to exist before 100/99 B. C.

The chronological obstacles are thus altogether too considerable to allow us to accept Sundwall's interpretation of *κατ' ἀρχοντα* and *κατὰ θεόν*, especially when this suffers already from troubles of a purely calendar sort, and is, at best, only one of two interpretations.

On what principles the archon constructed his year or cycle of years the state of our knowledge leaves us still a long way from ascertaining, but we may venture the guess that the months of his year stood in somewhat the same relation to the committees of the Areopagos—for a body of approximately 225 members could not function well without sections or committees—as the months of the lunar year did to the sections of the senate of 600. And if this were the case we could understand why the "mint inspectors" of the Areopagos held office for a term which disregarded both the limits and the months of the (senatorial-calendar) year for which the first two mint commissioners served.

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¹See my article on "The Athenian Pythais" in *Klio* IX.

²*Klio* IV, pp. 5 ff.